CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 78-45

NPDES NO. CA 0005517

WASTE DISCHARGE REQUIREMENTS FOR:

MARE ISLAND NAVAL SHIPYARD
VALLEJO, SOLANO COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, hereinafter Board, finds that:

1. Mare Island Naval Shipyard, hereinafter discharger, submitted a report of waste discharge dated March 25, 1977, for reissuance of NPDES Permit No. CA 0005517.

2. The discharger discharges pollutants to Mare Island Strait, a navigable water of the United States, as follows:

   a. 4.65 mgd of power generation cooling water with a maximum discharge rate of 12 mgd. This waste receives no treatment. (001).

   b. 0.97 mgd of water used to carry ships in and out of dry dock numbers 1 and 2. This water receives no treatment. The maximum discharge rate is 3.52 mgd. (002)

   c. 0.71 mgd of water used to carry ships in and out of dry dock numbers 3 and 4. This water receives no treatment. The maximum discharge rate is 5.07 mgd. (003)

3. The discharger discharges waste to Mare Island Strait, a water of the State, as defined in the California Water Code, as follows:

   An unspecified amount of raw domestic sewage from five service craft which are used as offices and work space during normal working hours and to house a "duty section" consisting of 20 to 30 men after normal working hours. (004)

4. The Environmental Protection Agency prescribed waste discharge requirements for the discharger by issuing NPDES Permit No. CA 0005517 on March 15, 1974. This permit expired on October 1, 1977.

5. The Clean Water Act of 1977 gave the power to issue permits for Federal facilities to the States.

6. The Board adopted a Water Quality Control Plan for the San Francisco Bay Basin in April 1975.

7. The beneficial uses of Mare Island Strait and adjoining water bodies are:

   a. Navigation
   b. Recreation
   c. Fish migration and habitat
   d. Aesthetic enjoyment
   e. Industrial water supply.

8. Effluent limitations and toxic effluent standards which have been or may be established pursuant to Sections 301, 302, 304, and 307 of the Federal Water Pollution Control Act are applicable to discharge 001.

9. These requirements will serve as a permit for the National Pollutant Discharge Elimination System pursuant to Section 402 of the Federal Water Pollution Control Act.

10. This project involves the continued operation of a publicly-owned facility with negligible or no expansion of use beyond that previously existing. Consequently, this project will not have a significant effect on the environment based upon the exemption provided in Section 15101, Title 14, California Water Code.

11. The Board has notified the discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharger by reissuing NPDES Permit No. CA 0005517 and has provided them an opportunity for a public meeting and an opportunity to submit their written views and recommendations.

12. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, pursuant to the provisions of Division 7 of the California Water Code and regulations adopted thereunder, and to the provision of the Federal Water Pollution Control Act, as amended, and regulations and guidelines adopted thereunder, that the discharger shall comply with the following:

A. Effluent Limitations

1. Waste 001 shall not exceed the following limitations:

   a. The maximum temperature shall not exceed the natural receiving water temperature by more than $20^{\circ}F$.

   b. The maximum temperature shall not exceed $86^{\circ}F$.

   c. In any representative set of samples the waste as discharged shall meet the following limit of quality:

   TOXICITY: The survival of test organisms, acceptable to the Board shall achieve a median of 90% survival and a 90 percentile value of not less than 70% survival.

d. The pH shall not be less than 6.5 or greater than 8.5.

e. The concentration of oil and grease in the effluent shall not exceed 20 mg/l for any one day.

f. The concentration of total suspended solids in the effluent shall not exceed that in the intake by more than 10 mg/l.

2. The discharge of Wastes 002, and 003 shall not exceed those quantities remaining after the following measures have been taken: prior to the submergence of any portion of each dry dock the discharger shall remove spent abrasives, paint residues, and other debris from those portions of the dry dock floor which are reasonably accessible, to a degree achievable by scraping or broom cleaning. After a vessel has been removed from a dry dock, the remaining areas of the floor which were previously inaccessible shall be cleaned by scraping or broom cleaning as soon as practicable and prior to the introduction of another vessel.

This provision shall not apply in cases wherein a vessel must be introduced into the dry dock on an emergency basis, such as to prevent sinking or leakage of oil or other materials. The Executive Officer shall be notified in such cases.

B. Prohibitions

1. The discharge of Waste 004 shall cease by July 1, 1979.

C. Receiving Water Limitations

1. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place:

a. Floating, suspended, or deposited macroscopic particulate matter or foam;

b. Bottom deposits or aquatic growths;

c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;

d. Visible, floating, suspended or deposited oil or other products of petroleum origin;

e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.

2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State in any place within one foot of the water surface:

a.	Dissolved Oxygen	5.0 mg/l minimum. Annual Median - 80% saturation. When natural factors cause lesser concentration(s) than those specified above, then this discharge shall not cause further reduction in the concentration of dissolved oxygen.
b.	Dissolved sulfide	0.1 mg/l maximum
c.	pH	Variation from natural ambient pH by more than 0.2 pH units.

3. Elevated temperature waste discharges either individually or combined with other discharges shall not create a zone, defined by water temperatures of more than $1^{o}F$ above natural receiving water temperature, which exceeds 25 percent of the cross-sectional area of a main river channel at any point.

4. No discharge shall cause a surface water temperature rise greater than $4^{o}F$ above the natural temperature of the receiving waters at any time or place.

5. The discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Board or the State Water Resources Control Board as required by the Federal Water Pollution Control Act and regulations adopted thereunder.

D. Provisions

1. The Board shall modify and amend effluent limitation A.2. of this Order upon receiving guidance from EPA to require that prior to the submergence of any portion of either of the floating dry docks, the discharger shall remove spent abrasives, paint residues, and other debris from the floor of the dry dock, to a degree equivalent to "broom cleaned." However, if the discharger demonstrates at said hearing to modify and amend this limitation that no practicable technology or equipment is available, and with due diligence the discharger has been unable to develop or contract for the development of such technology or equipment, then this Board may decline to modify or amend limitation A.2.

2. The discharger shall comply with the Self-Monitoring Program as ordered by the Executive Officer.

3. This Order includes the attached "Standard Provisions, Reporting Requirements, and Definitions," dated April, 1977, except items A.5,12; B.2,5; and all of Section C.

4. This Order expires June 20, 1983. The discharger must file a report of waste discharge in accordance with Title 23, Chapter 3, Subchapter 9 of the California Administrative Code not later than 180 days in advance of such expiration date as application for issuance of new waste discharge requirements.

5. This Order shall serve as a National Pollutant Discharge Elimination System Permit pursuant to Section 402 of the Federal Water Pollution Control Act or amendments thereto, and shall become effective 10 days after date of its adoption provided the Regional Administrator, Environmental Protection Agency, has no objection. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.

I, Fred H. Dierker, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region on June 20, 1978.

FRED H. DIERKER
Executive Officer

Attachments:
Standard Provisions, Reporting Requirements, and Definitions, April 1977
Self-Monitoring Program

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION
APRIL 1977

STANDARD PROVISIONS, REPORTING REQUIREMENTS AND DEFINITIONS

A. Standard Provisions:

1. Neither the treatment nor the discharge of wastes shall create a nuisance or pollution as defined in the California Water Code.

2. The requirements prescribed herein do not authorize the commission of any act causing injury to the property of another, nor protect the discharger from his liabilities under federal, state, or local laws, nor guarantee the discharger a capacity right in the receiving waters.

3. The discharger shall permit the Regional Board and the Environmental Protection Agency:

   (a) Entry upon premises in which an effluent source is located or in which any required records are kept;

   (b) Access to copy any records required to be kept under terms and conditions of this Order;

   (c) Inspection of monitoring equipment or records, and

   (d) Sampling of any discharge.

4. All dischargers authorized by this Order shall be consistent with the terms and conditions of this Order. The discharge of any pollutant more frequently than or at a level in excess of that identified and authorized by this Order shall constitute a violation of the terms and conditions of this Order.

5. The discharger's wastewater treatment plant shall be supervised and operated by persons possessing certificates of appropriate grade pursuant to Chapter 3, Subchapter 14, Title 23, California Administrative Code.

6. The discharger shall maintain in good working order and operate as efficiently as possible any facility or control system installed by the discharger to achieve compliance with the waste discharge requirements.

7. Collected screenings, sludges, and other solids removed from liquid wastes shall be disposed of at a legal point of disposal, and in accordance with the provisions of Division 7.5 of the California Water Code. For the purpose of this requirement, a legal point of disposal is defined as one for which waste discharge requirements have been prescribed by a regional water quality control Board and which is in full compliance therewith.

b) Should the Regional Board not approve the existing safeguards, the discharger shall, within ninety (90) days of having been advised by the Regional Boad that the existing safeguards are inadequate, provide to the Regional Board and the Regional Administrator a schedule of compliance for providing safeguards such that in the event of reduction, loss, or failure of electric power, the permittee shall comply with the terms and conditions of this permit. The schedule of compliance shall, upon approval of the Regional Board Executive Officer, become a condition of this Order.

13. Any diversion from or bypass of facilities necessary to maintain compliance with the terms and conditions of this Order is prohibited, except (a) where unavoidable to prevent loss of life or severe property damage, or (b) where excessive storm drainage or runoff would damage any facilities necessary for complaince. Wet weather diversions and bypasses may be subject to waste discharge requirements.

The discharger shall take all reasonable steps to minimize any adverse impact to receiving waters resulting from noncompliance with any effluent limitations or prohibition specified in this Order, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

Details of notification procedures, required written reports and accelerated monitoring are contained in the Self-Monitoring Program.

14. Except for data determined to be confidential under Section 308 of the Federal Water Pollution Control Act, all reports prepared in accordance with terms of this Order shall be available for public inspection at the offices of the Regional Water Quality Control Board, and the Regional Administrator of EPA. As required by the Federal Water Pollution Control Act, effluent data shall not be considered confidential. Knowingly making any false statements on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the Act.

15. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the discharger, the discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be forwarded to this Board.

16. The discharger shall ensure compliance with any existing or future pretreatment standard promulgated by EPA under Sections 307 of the Federal Water Pollution Control Act or amendment thereto, for any discharge to the municipal system.

17. The discharge of any radiological, chemical, or biological warfare agent or high level radiological waste is prohibited.

5. The discharger shall file a written report with the Board within ninety (90) days after the average dry-weather waste flow for any month equals or exceeds 75 percent of the design capacity of his waste treatment and/or disposal facilities. The discharger's senior administrative officer shall sign a letter which transmits that report and certifies that the policy-making body is adequately informed about it. The report shall include:

   a. Average daily flow for the month, the date on which the instantaneous peak flow occurred, the rate of that peak flow, and the total flow for the day.

   b. The discharger's best estimate of when the average daily dry-weather flow rate will equal or exceed the design capacity of his facilities.

   c. The discharger's intended schedule for studies, design, and other steps needed to provide additional capacity for his waste treatment and/or disposal facilities before the waste flow rate equals the capacity of present units. (Reference: Sections 13260, 13267(b) and 13268, California Water Code).

C. Definitions:

1. The daily discharge rate is obtained from the following calculation for any calendar day:

$$\text{Daily discharge rate (lbs/day)} = \frac{8.34}{N} \sum_{1}^{N} Q_i C_i$$

$$\text{Daily discharge rate (kg/day)} = \frac{3.78}{N} \sum_{1}^{N} Q_i C_i$$

in which N is the number of samples analyzed in any calendar day. Q_i and C_i are the flow rate (MGD) and the constituent concentration (mg/l) respectively, which are associated with each of the N grab samples which may be taken in any calendar day. If a composite sample is taken, C_i is the concentration measured in the composite sample and Q_i is the average flow rate occurring during the period over which samples are composited.

2. The "30-day, or 7-day, average" discharge is the total discharge by weight during a 30, or 7, consecutive calendar day period, respectively, divided by the number of days in the period that the facility was discharging. Where less than daily sampling is required by this permit, the 30-day, or 7-day, average discharge shall be determined by the summation of all the measured discharges by weight divided by the number of days during the 30, or 7, consecutive calendar day period when the measurements were made.

   If fewer than four measurements are made during a 30-day period or fewer than three during a 7-day period, then compliance or non-compliance with the 30, or 7, day average discharge limitation shall not be determined.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM
FOR

Mare Island Naval Shipyard

Vallejo

Solano County

NPDES NO. CA 0005517

ORDER NO. 78-45

CONSISTS OF

PART A , dated January 1978

AND

PART B

PART B

I. DESCRIPTION OF SAMPLING STATIONS

A. INTAKE

Station	Description
I	At a point in the intake for water used as power generation cooling water.

B. EFFLUENT

Station	Description
E-001	At any point in the outfall containing Waste 001 between the point of discharge and the point at which all waste tributary to that outfall is present.

C. RECEIVING WATER

Station	Description
C-R	At a point in Mare Island Strait 1000 feet upstream from the discharge point for Waste 001.
C-1	At a point in Mare Island Strait directly over the discharge point for Waste 001.

D. MISCELLANEOUS REPORTING

1. Prior to the submergence of any portion of each dry dock, three closeup photographs of the dry dock floor shall be taken, representative of the cleanliness of the entire dry dock. Photographs need not be taken if the natural lighting on the dry dock at the time of submergence is inadequate to provide sufficient detail in the photographs or when the shipyard commander deems it improper for national security reasons to photograph the dry docks. At such times sketches of the area shall be submitted.

   All photographs taken shall be submitted, as color slides, monthly.

II. SCHEDULE OF SAMPLING AND ANALYSIS

A. The schedule of sampling and analysis shall be that given as Table I.

I, Fred H. Dierker, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No. 78-45.

2. Does not include the following paragraphs of Part A: C.3, 4; D.1; E.4; F.2.

3. Has been ordered by the Executive Officer on June 20, 1978, and becomes effective immediately.

4. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the discharger and revisions will be ordered by the Executive Officer.

FRED H. DIERKER
Executive Officer

Attachment:
Table I

TABLE I

SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

Sampling Station	E-001			C-R, C-1		I							
TYPE OF SAMPLE	Cont	G		G	O	G							
Flow Rate (mgd)	Cont												
BOD, 5-day, 20° C, or COD (mg/l & kg/day)													
Chlorine Residual & Dosage (mg/l & kg/day)													
Settleable Matter (ml/1-hr. & cu. ft./day)													
Total Suspended Matter (mg/l & kg/day)		W				W							
Oil & Grease (mg/l & kg/day)		W(1)											
Coliform (Total or Fecal) (MPN/100 ml) per req't													
Fish Toxicity, 96-hr. TL_{50} % Survival in undiluted waste		Q											
Ammonia Nitrogen (mg/l & kg/day)													
Nitrate Nitrogen (mg/l & kg/day)													
Nitrite Nitrogen (mg/l & kg/day)													
Total Organic Nitrogen (mg/l & kg/day)													
Total Phosphate (mg/l & kg/day)													
Turbidity (Jackson Turbidity Units)													
pH (units)		D		M									
Dissolved Oxygen (mg/l and % Saturation)				M									
Temperature (°C)	Cont			M									
Apparent Color (color units)													
Secchi Disc (inches)													
Sulfides (if DO < 5.0 mg/l) Total & Dissolved (mg/l)				M									
Arsenic (mg/l & kg/day)													
Cadmium (mg/l & kg/day)													
Chromium, Total (mg/l & kg/day)													
Copper (mg/l & kg/day)													
Cyanide (mg/l & kg/day)													
Silver (mg/l & kg/day													
Lead (mg/l & kg/day)													

TABLE I (continued)
SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

Sampling Station	E-001			C-R, C-I		I							
TYPE OF SAMPLE	Cont	G		G	O	G							
Mercury (mg/l & kg/day)													
Nickel (mg/l & kg/day)													
Zinc (mg/l & kg/day)													
PHENOLIC COMPOUNDS (mg/l & kg/day)													
All Applicable Standard Observations					M								
Bottom Sediment Analyses and Observations													
Total Identifiable Chlorinated Hydrocarbons (mg/l & kg/day)													

LEGEND FOR TABLE

TYPES OF SAMPLES

G = grab sample
Cont = continuous sampling
O = observation

TYPES OF STATIONS

I = intake and/or water supply stations
E = waste effluent stations
C = receiving water stations

FREQUENCY OF SAMPLING

D = once each day
W = once each week
M = once each month
Q = quarterly, once in March, June, Sept. and December
Cont = continuous

NOTES FOR TABLE

(1) Oil and grease sampling shall consist of 3 grab samples taken at 8-hour intervals during the sampling day, with each grab being collected in a glass container. The grab samples shall be mixed in proportion to the instantaneous flow rates occurring at the time of each grab sample, within an accuracy of plus or minus 5%. Each glass container used for sample collection or mixing shall be throughly rinsed with solvent rinsings as soon as possible after use, and the solvent rinsings shall be added to the composite wastewater sample for extraction and analysis.